Subject Index

A-78773 5-lipoxygenase inhibitor, metabolism of, 262-270
A-79175, 266
Accolate, *see* ICI 204219
Airway effects, delayed, 243-249
Airway epithelial cell lipoxygenases, 59-61
Airway vascular permeability, measurement of, 291
Allene oxide synthase
  mechanistic analogies of, 26-27
  molecular cloning of, 25-26
  purification of, 25
  purified, epoxyalcohol synthesis by, 26
Alpha-chain immunoreactivity, 150
Alternative splicing of mRNA, 153
Alternative transcripts, 149
Amastatin, 36
Anaphylaxis, slow-reacting substance of (SRS-A), 155, 251
Angioplasty, 178
Animal models of lung inflammation, 274-284
Anti-hPAFR antibody, 187
Antihistamines, pretreatment with, 194
Antisense genetic approach, 150
Antitumor effect of lipo-Δ^7-PGA_1 methylester, 164-165
Apoptosis, 162
Arachidonate, 107
  release of, 115
Arachidonate 15-lipoxygenase products
  "antiinflammatory" actions, 220-221
  chemistry and cellular sources, 220
Arachidonate metabolites and cytokines, 94
Arachidonate release, activation of, 107-119
Arachidonic acid
  leukotrienes from, 99
  oxygenation of, 146
Arachidonic acid metabolism, 13
  in activated mast cells, 92-94
  enzymes of, 89-92
  to 12-HETE, 200-202
  by mast cells, 89-94
Arachidonic acid metabolites, 12
Arachidonic acid ω-hydroxylation, cytochrome P450, 11-21
Arachidonic acid release, phospholipid specificity of, 5-8
Arphamenines, 37
Arteriolar dilatation, 193
Aspirin, 232-234
Asthma, 251
  cysteinyl leukotrienes in clinical models of, 255-256
  eicosanoids and, 251-258, 304
  endogenous production of cysteinyl leukotrienes in, 254, 255
  exercise refractoriness in, cysteinyl leukotrienes in, 256-257
  treatment of, 257

Basophils, inhibiting, 299
BAY X1005, 80
Bestatin, 37
β-oxidation, 41
Breast cancer cell growth, MCF-7, 306-309
Bronchi, measurement of leukotrienes from, 245
Bronchial contraction, human, to 15-HETE, 245-246
Bronchial tissue, leukotriene production from human, 246-247
Bronchoconstrictors, 253

C-*kit* ligand (KL), 88-89
Ca^{++}, intracellular concentration of, 147
Calcium, mobilization of, 113
Calcium influx, leukotriene D_4-induced, 157-158
Calcium signal, effects of, in epithelial cells, 157
cAMP (cyclic AMP), 147
cAMP accumulation, inhibition of, 113, 114
cAMP-dependent leukotriene D_4-induced calcium influx, 157-158
Cancer metastasis, 12-lipoxygenase and 12(S)-HETE and, 119-213
Catalysis and inhibition, mechanism of, 314-316
Cathepsin B and 12-HETE, 208
Cell-cell interactions, 155
  in lipoxin generation, 166-178
Cell cycle arrest at G1 phase, 162
Chemotactic responses of Go-deficient transfectants, 150
Chromolyn sodium, 299
Clofibrate, 20-HETE production and, 18
Colonic mucosal epithelial cells, 61
Connective tissue mast cells (CTMC), 88
Corneal epithelia, human, monkey, and bovine, lipoxygenases in, 317-319
COX, *see* Cyclooxygenase *entries*
CTMC (connective tissue mast cells), 88
Cyclic AMP, *see* cAMP *entries*
Cyclooxygenase (COX), 181-182
  human platelet, 320

Cyclooxygenase-1, 50-54, 181-182
Cyclooxygenase-2, 50-54, 181-182
Cyclooxygenase-2 induction, 249
Cyclooxygenase-dependent formation of 8-epi prostaglandin F_{2a}, 139-144
Cyclooxygenase pathway, 91
Cysteinyl leukotrienes, 191
  in clinical models of asthma, 255-256
  endogenous production of, in asthma, 254, 255
  in exercise refractoriness in asthma, 256-257
  inhaled, in human subjects, 252-254
Cystic fibrosis, 322
Cytochrome P450, 11
  arachidonic acid ω-hydroxylation, 11-21
  hydroperoxy fatty acid transformations by, 25-29
  monooxygenase, mechanistic analogies of, 26-27
Cytokine regulation
  of eicosanoid generation, 181-182
  of mast cell protease phenotype and arachidonic acid metabolism, 84-94
Cytokines, arachidonate metabolites and, 94

DAG (diacylglycerol), 212
Δ^7-PGA_1 methylester, 163
Δ^{12}-PGJ_2, 161-165
$\Delta^{10,11}$-reductase pathway, 40-41
Desensitization-susceptible isoform, 153
Dexamethasone
  20-HETE production and, 18
  PGHS-2 induction and, 50
Diacylglycerol (DAG), 212
Dihydroxyeicosatetraenoic acids (diHETE), 31
Dipeptide, leukotriene A_4 hydrolase as, 34-37
"Docking and locking" hypothesis, 209

E_2/D_2-isoprostanes, 239-240
E_2-isoprostane, 239
ECI (electron capture ionization), 44
EET (epoxyeicosatrienoic acids), 11
Eicosanoid biosynthesis and metabolism
  in essential thrombocythemia, 233-234
  in myeloproliferative disorders, 229-234
  in polycythemia vera, 231-233
Eicosanoid biosynthesis modulation by pyridinylpyrimidines, 299-304
Eicosanoid generation, cytokine regulation of, 181-182
Eicosanoid metabolism, inhibition of platelet, 320-322
Eicosanoid receptors
  G proteins coupled to, 149-152
  mechanisms of specificity of, 152
  multiple cellular determinants of specificity of, 152-153
Eicosanoids, 1, 199
  asthma and, 251-258, 304
  platelet, 302-303
  polymorphonuclear leukocyte, 303-304
  receptors for, specificity of, 146-153
Electron capture ionization (ECI), 44
Electron paramagnetic resonance of 15-lipoxygenase, 312-313
Electrospray ionization mass spectrometry, 34
ELISA sensitivity and selectivity, 168-169
Enantiomers, 265-268
Endothelial cell phenotypes and 12-HETE, 209-211
Endothelial cell-tumor cell interactions, 209-211
Enzyme-substrate interaction, 102
Eosinophil migration, 290-291
EP1, EP2, and EP3 subtypes of PGE receptor, 129-133
EP3 receptor isoforms, 133-134
8-Epi-PGE_2, 239
8-Epi-PGH_2, 237-238
8-Epi prostaglandin F_{2a}, 139
  cyclooxygenase-dependent formation of, 139-144
Epithelial cell barrier
  lipoxygenase function in, 63-66
  lipoxygenase gene family in, 58-66
  PGH synthase gene family in, 66-67
Epithelial cells
  colonic mucosal, 61
  effects of calcium signal in, 157
  regulation of levels of PGH synthase in, 70-71
Epithelial tissues, 58
Epoxyalcohol formation from 15-HPETE, 27-28
Epoxyalcohol synthesis by purified allene oxide synthase, 26
Epoxyeicosatrienoic acids (EET), 11
Epoxyhydroxy acids (hepoxilins), 59
Exercise refractoriness in asthma, cysteinyl leukotrienes in, 256-257
Exocytosis, 94

F-isoprostane isomers, 139
F_2-isoprostanes, 237-241
FcεRI, 92
FcγR, type II, 92
FcγRIII, 92
FLAP, *see* 5-Lipoxygenase activating protein
Flow cytometry, 187

Formyl-methionyl-leucyl-phenylalanine (fMLP), 171, 187

G proteins (guanine nucleotide-binding proteins), 107, 146
  coupled to eicosanoid receptors, 149-152
  heterotrimeric, 153
  and leukotriene D_4, 156-157
  receptors coupled to, 107-119
G1 phase, cell cycle arrest at, 162
G2/M arrest, 162-163
Gaeumannomyces graminis, 314-316
Gas chromatography mass spectral analysis (GC/MS), 42, 44, 46-47, 201
Glomerular inflammation, leukotrienes in, 217-220
Glomeruli, lipoxygenase products in normal and diseased, 216-224
Glomerulonephritis, 216
  15-HETE interactions with LTB_4 in experimental, 222-224
Glucuronidation
  inhibitors to, 263
  of *N*-hydroxyurea inhibitors, 265
Glutathione conjugation, 41
GM-CSFrh, 170
Go-deficient transfectants, chemotactic responses of, 150
GSH-S-transferases, 91
Guanine nucleotide-binding proteins, *see* G proteins
Guinea pig airways, ovalbumin-induced plasma extravasation in, 277, 279
Guinea pig lung, ovalbumin-challenged perfused, 277, 279-282
Guinea pigs, ovalbumin-induced anaphylaxis in, 274-276, 278-279

Heat shock elements (HSE), 326
Heat shock factor (HSF), 326
Heat shock proteins (HSP), 162, 323-325
HEL (human erythroleukemia) cells, 200
Heme oxygenase (HO), 328-329
Hemorrhagic complications, 229
Hepatorenal syndrome, 239
Hepoxilins (epoxyhydroxy acids), 59
HETE (hydroxyeicosatetraenoic acids), 11
12-HETE, *see* 12-Hydroxyeicosatetraenoic acid
15-HETE, *see* 15-Hydroxy-5c,8c,13t-eicosatetraenoic acid
20-HETE, *see* 20-Hydroxy-5,8,11,14-eicosatetraenoic acid
Heterotrimeric G proteins, 153
High performance liquid chromotography (HPLC), 200-201
Hippocampus, 107
  rat, G protein-coupled receptors expressed in, 107-119
Histamine, 299
  interactions between leukotrienes and, in microcirculation, 191-196
  synergism between leukotriene B_4 and, 194-195
  synergism between leukotriene C_4 and, 192-194
Histamine-induced vasodilatation, 195
HL-60, 171
HL-60 leukocytes, lysosomal degranulation of, 151
HO (heme oxygenase), 328-329
10-HOTrE (10-hydroxy-4,6,12-octadecatrienoic acid), 41
15-HPETE, epoxyalcohol formation from, 27-28
HPETEs, *see* Hydroperoxy fatty acids
HPLC (high performance liquid chromophotography), 200-201
HSE (heat shock elements), 326
HSF (heat shock factor), 326
HSP (heat shock proteins), 162, 323-325
Human, monkey, and bovine corneal epithelia, lipoxygenases in, 317-319
Human erythroleukemia (HEL) cells, 200
Human keratinocytes, metabolism of leukotrienes in, 39-48
Human umbilical vein endothelial cells (HUVEC), 168
Hydroperoxide isomerase, 314-316
Hydroperoxy fatty acids (HPETEs, hydroperoxyeicosatetraenoic acids), 25
  transformations by cytochrome P450s, 25-29
Hydroperoxyeicosatetraenoic acids, *see* Hydroperoxy fatty acids
10-Hydroxy-4,6,12-octadecatrienoic acid (10-HOTrE), 41
12-Hydroxyeicosanoid dehydrogenase, 39
12-Hydroxyeicosatetraenoic acid (12-HETE), 62
  arachidonic acid metabolism to, 200-202
  biological activities of, 213
  cancer metastasis and 12-lipoxygenase and, 199-213
  cathepsin B and, 208
  endothelial cell phenotypes and, 209-211
  generation of, 202-207
  protein kinase C and, 211-213
  tumor cell cytoskeleton and, 209
  tumor cell interactions and, 208
  tumor cell motility and, 208
  wide-spectrum activity of, 207-213
15-Hydroxy-5c,8c,13t-eicosatetraenoic acid (15-HETE), 54, 220, 243

human bronchial contraction to, 245-246
interactions with LTB_4 in experimental glomerulonephritis, 222-224
leukotrienes mediating effects of, 243-249
20-Hydroxy-5,8,11,14-eicosatetraenoic acid (20-HETE), 11-21
dexamethasone and clofibrate on production of, 18
endogenous formation of, 13-14
Hydroxyeicosatetraenoic acids (HETE), 11

IAP (islet activating protein), 176
ICI 204219, 78
exploration of properties of, 289-296
IFNγ, *see* Interferon-gamma
Ig (immunoglobulin) E receptors, 243
IL-4, 223-224, 243-244
IL-4 RT-PCR products, 223
IL-9, 89
IL-10, 89
Immunoglobulin (Ig) E receptors, 243
Indomethacin, 182
inhibiting MCF-7 cells, 309
Inflammation, acute allergic, 191-196
Inflammatory bowel disease, active sites of, 61
Inflammatory reaction, 155
noninflammatory cells in, 156
Inositol phosphates, production of, 113
Interferon-gamma (IFNγ), 184
platelet activating factor and, 184-189
Interleukins, *see* IL *entries*
Intracellular concentration of Ca^{++}, 147
Islet activating protein (IAP), 176
Isoprostanes, 139, 237-241
as markers of endogenous lipid peroxidation, 238-239
Isotype switching, 243

Keratinocytes
human, metabolism of leukotrienes in, 39-48
in psoriatic inflammation, 61-63
KL (c-*kit* ligand), 88-89

L 929 cells, 185
LA, *see* Linoleic acid
Leukocyte accumulation, 194
Leukocyte adhesion, 195
Leukocyte extravasation, 194
Leukocyte recruitment, 191
Leukocyte rolling, 195-196
Leukocyte-type enzymes, 59
Leukotriene A_4 (LTA_4), role of LTA_4 hydrolase in accumulation and redistribution of, 31-32
Leukotriene A_4 hydrolase, 31-32, 219
as dipeptide, 34-37
role in accumulation and redistribution of LTA_4, 31-32
suicide inactivation of, 32-34
Leukotriene antagonists in asthma treatment, 257
Leukotriene B_4 (LTB_4), 149, 191
biologic activities in inflamed glomerulus, 219-220
biologic activities in normal glomerulus, 218
in glomerular inflammation, 217-218
interactions with 15-HETE in experimental glomerulonephritis, 222-224
synergism between histamine and, 194-195
Leukotriene biosynthesis
human neutrophil, 263
inhibition of, 301-302
and metabolism in man, 229-231
Leukotriene C_4 (LTC_4), 217
biologic activities in inflamed glomerulus, 218-219
biologic activities in normal glomerulus, 218
as bronchoconstrictor, 253
synergism between histamine and, 192-194
Leukotriene C_4 synthase, 78, 81-83, 90-91
Leukotriene D_4 (LTD_4), 155
biologic activities in inflamed glomerulus, 218-219
biologic activities in normal glomerulus, 218
as bronchoconstrictor, 253
G proteins and, 156-157
in glomerular inflammation, 217-218
Leukotriene D_4-induced calcium influx, 157-158
Leukotriene D_4-induced signal transduction, 155-159
Leukotriene E_4 (LTE_4), 230-231
Leukotriene production, from human bronchial tissue, 246-247
Leukotrienes, 31, 155
from arachidonic acid, 99
contrasting actions of 15-lipoxygenase products and, in glomerulus, 221-224
cysteinyl, *see* Cysteinyl leukotrienes
in glomerular inflammation, 217-220
interactions between histamine and, in microcirculation, 191-196
measurement of, from bronchi, 245
mediating 15-HETE effects, 243-249
metabolism in human keratinocytes, 39-48

sulfido-leukotrienes, regulators of biosynthesis of, 78-83
Ligand binding, 168
Ligand binding properties, 131-132
Linoleic acid (LA), 199
8R-dioxygenase, 314-316
Lipid peroxidation, isoprostanes as markers of endogenous, 238-239
Lipo-Δ^7-PGA_1, methylester, antitumor effect of, 164-165
Lipopolysaccharide (LPS), priming of $P388D_1$ macrophage-like cells, 2, 4-5
Lipoxin A_4 (LXA_4), 167-178, 221
induction of receptors for, 171-176
Lipoxin A_4 receptors, characterization of, 166-178
Lipoxin generation, cell-cell interactions in, 166-178
Lipoxins (trihydroxy acids), 59, 166, 220
Lipoxygenase gene family, 58-66
Lipoxygenase products in normal and diseased glomeruli, 216-224
5-Lipoxygenase, 219-220
inhibition of, 325
RBL cell lysate, 262-263
5-Lipoxygenase activating protein (FLAP), 78-81
5-lipoxygenase and, 90
5-Lipoxygenase inhibitor A-78773, metabolism of, 262-270
5-Lipoxygenase pathway, 89-90
12-Lipoxygenase, 170
expression of, 202-207
human platelet, 320
12(S)-HETE and cancer metastasis and, 199-213
in tumor cells, 200-202
15-Lipoxygenase
contrasting actions of leukotriene products and, in glomerulus, 221-224
electron paramagnetic resonance of, 312-313
regiospecificity of, 99-105
scanning calorimetry of, 313
x-ray structure of, 310-312
15-Lipoxygenase products, arachidonate, *see* Arachidonate 15-lipoxygenase products
Lipoxygenases, 58, 99
airway epithelial cell, 59-61
function in epithelial cell barrier, 63-66
in human, monkey, and bovine corneal epithelia, 317-319
Liver microsomes, metabolism by, 263
LO, *see* 5-Lipoxygenase
5-LO, *see* 5-Lipoxygenase
12-LOX, *see* 12-Lipoxygenase
LPS (lipopolysaccharide), 2
LT, *see* Leukotriene *entries*
LTA_4, *see* Leukotriene A_4
LTB_4, *see* Leukotriene B_4
LTC_4, *see* Leukotriene C_4
LTD_4, *see* Leukotriene D_4
LTE_4, *see* Leukotriene E_4
Lung inflammation, animal models of, 274-284
LXA_4, *see* Lipoxin A_4
[11,12-^{3}H]LXA_4-specific binding, 175
Lysosomal degranulation of HL-60 leukocytes, 151

M current, 108
MAP (mitogen-activated protein) kinase, 86
activation of, 107-119, 115
MAP kinase kinase, activation of, 115
Mast cell activation and phospholipase A_2, 87
Mast cell heterogeneity, 88
Mast cells
activated, arachidonic acid metabolism in, 92-94
arachidonic acid metabolism by, 89-94
mBMMC (mouse bone marrow-derived mast cells), 87
MCF-7 breast cancer cell growth, 306-309
Mediator antagonists, 274
Mediator release inhibitors, 299
MEK kinase (MEKK), 116-118
Mesangial cell actions, 221
Metabolism
inhibition of platelet eicosanoid, 320-322
of leukotrienes in human keratinocytes, 39-48
of 5-lipoxygenase inhibitor A-78773, 262-270
stereoselective, 265-267
Metastasis
modulator of, 207-213
organ preference of, 209
tumor cells in, 199
Metastatic potential of tumor cells, 202-207
Methacholine, 253
6-Methoxy-naphthyl-acetic acid (6-MNA), 52
Microcirculation, 191
interactions between histamine and leukotrienes in, 191-196
prostaglandin E_2 in, 192-193
Mitogen-activated protein, *see* MAP *entries*
MK-571, 78, 244-246
MK-0679, 78
MK-886, 79-80, 244-246
MMC (mucosal mast cells), 88

mMCP (mouse mast cell protease), 88
6-MNA (6-methoxy-naphthyl-acetic acid), 52
Monocytes
  preparation of, 185
  priming of, 184-189
Monooxygenase P450s, mechanistic analogies of, 26-27
Mouse bone marrow-derived mast cells (mBMMC), 87
Mouse mast cell protease (mMCP), 88
Mouse mast cells, *in vitro* differentiation of, 88-89
mRNA, alternative splicing of, 153
mRNA studies, 186
Mucosal mast cells (MMC), 88
Multiple mediator antagonist combination, 284-285
Muramyl dipeptide (MDP)-driven TNFα production, 184
Mutagenesis, site-directed, 102
myc gene, 162
Myeloproliferative disorders, eicosanoid biosynthesis and metabolism in, 229-234

N-hydroxyurea inhibitors, glucuronidation of, 265
NDGA (nordihydroguaiaretic acid), 210-211
Nephron function, single, 221
Nerve growth factor (NGF), 89
Neutrophil leukotriene biosynthesis, human, 263
Neutrophils, *see* Polymorphonuclear leukocytes
NGF (nerve growth factor), 89
Nitrobestatin, 37
Noninflammatory cells in inflammatory reaction, 156
Nonsteroidal antiinflammatory drugs (NSAIDs), 52-54
Nordihydroguaiaretic acid (NDGA), 210-211
NS-398, 182
NSAIDs (nonsteroidal antiinflammatory drugs), 52-54

20-OH-10,11-dihydro-LTB_4, 41
ω-hydroxylase, 16
ω-oxidation, 41
ONO-4057, 174, 175
Ovalbumin-challenged perfused guinea pig lung, 277, 279-282
Ovalbumin-induced anaphylaxis in guinea pigs, 274-276, 278-279
Ovalbumin-induced plasma extravasation in guinea pig airways, 277, 279
Oxidant stress, 238-239
Oxidative injury, 329
12-Oxo-LTB_4, 39-42
Oxygenation of arachidonic acid, 146

P388D_1 macrophage-like cells, 2
  LPS-priming of, 4-5
  prostaglandin E_2 production in, 1-8
  stimulation by platelet activation factor, 2-4
P450 4A1, 18
p-Nitroanilides (pNA), 35-36
PA (phosphatidic acid), 175
PAF, *see* Platelet activation factor
PAFR, (platelet activation factor receptor), 108-110, 184
PAFR promoters, 187-188
PDGF (platelet-derived growth factor), 86, 171
PECAM-1 (platelet endothelial cell adhesion molecule-1), 210, 211
Pentapeptides, 35
Peptidoleukotriene antagonist and PAF antagonist combination, 287
Peroxisome proliferator, 309
Pertussis toxin, inhibition of signals by, 115
PG receptors, 126
PGD_2 (prostaglandin D_2), 161
PGD_2 synthase, 91-92
PGD_2 synthesis, 87
PGE receptor EP1, EP2, and EP3 subtypes, 129-133
PGF receptor, 134-135
$PGF_{2\alpha}$, *see* 8-Epi prostaglandin $F_{2\alpha}$
PGH (prostaglandin endoperoxide) synthase, 50-54
  identification of, 67-70
  regulation of levels of, in epithelial cells, 70-71
PGH_2 receptor, 127-129
PGH synthase-1 (PGHS-1), 50-54
PGH synthase-2 (PGHS-2), 50-54
  induction of, 50
  molecular cloning and, 70
PGH synthase gene family in epithelial cell barrier, 66-67
PGHS-1 (PGH synthase-1), 50-54
PGHS-2, *see* PGH synthase-2
PGI (prostacyclin) receptor, 135-136
PGJ_2 (prostaglandin J_2), 161-165
PGs (prostanglandins), 126; *see also* Prostaglandin *entries*
Pharmacokinetic behavior, 269
Phosphatidic acid (PA), 175
Phospholipase A_2 (PLA_2), 1-5
  cytosolic, 85-86
  group II, 85
  heterogeneity of enzymes, 84

mast cell activation and, 87
secretory, 84-85
Phospholipase C, 156
Phospholipid specificity of arachidonic acid release, 5-8
PKC, *see* Protein kinase C
PLA_2, *see* Phospholipase A_2
Plasma leakage, 191
Platelet activation factor (PAF), 2, 107-108
binding of, in CHO cells, 113
distribution of receptors for, 108-110
interferon-gamma and, 184-189
receptor, *see* PAFR *entries*
signal transduction pathways for receptors for, 110-116
stimulation of $P388D_1$ macrophage-like cells by, 2-4
Platelet-derived growth factor (PDGF), 86, 171
Platelet eicosanoid metabolism, inhibition of, 320-322
Platelet eicosanoids, 302-303
Platelet endothelial cell adhesion molecule-1 (PECAM-1), 210, 211
Platelet:PMN incubations, 167-168
Platelet-PMN interactions, 169-171
Platelet-rich plasma (PRP), 230
PLD activity, 175
PLT, *see* Platelet *entries*
PMN, *see* Polymorphonuclear leukocytes
pNA (p-nitroanilides), 35-36
Polycythemia vera, 229-231
eicosanoid biosynthesis and metabolism in, 231-233
Polymorphonuclear leukocytes (PMN), 167, 216
eicosanoids, 303-304
Polyunsaturated fatty acids (PUFAs), 306
Promyelocytic cells, *see* HL-60 *entries*
Prostacyclin (PGI) receptor, 135-136
Prostaglandin A_1, stress protein induction by, 326-329
Prostaglandin A_1-induced heat shock response, 323-325
Prostaglandin D_2 (PGD_2), 161
Prostaglandin E_2
human cellular receptors for, 146-149
in microcirculation, 192-193
production in $P388D_1$ macrophage-like cells, 1-8
Prostaglandin endoperoxide (PGH) synthase, 50-54
Prostaglandin J_2 (PGJ_2), 161-165
Prostaglandins (PGs), 126; *see also* PG *entries*
Prostanoids, 51, 126
Protein kinase C (PKC), 3, 208
12-HETE and, 211-213
PRP (platelet-rich plasma), 230
Psoriatic inflammation, keratinocytes in, 61-63
PUFAs (polyunsaturated fatty acids), 306
Pulmonary diseases, 178
Pyocyanin, 320-322
Pyridinylpyrimidines, eicosanoid biosynthesis modulation by, 299-304

Quercetin, 323-325

8R-Dioxygenase, 314-316
Ras activation, absence of, 115-116
Rat 12/15-LO gene expression, 222
Rats, Sephadex-induced lung inflammation in, 278, 283-284
Reactive oxygen species, 321
Receptor tyrosine kinase (RTK)-mediated pathways, 116
Receptors (Rs) for eicosanoids, specificity of, 146-153
Regiospecificity of 15-lipoxygenase, 99-105
Reverse-phase (RP) HPLC, 201
Ro 24-4736, 274-287
Ro 24-5913, 274-287
RP (reverse-phase) HPLC, 201
Rs, *see* Receptors
RTK (receptor tyrosine kinase)-mediated pathways, 116

S channel, 107
13(S)-hydroxoctadecadienoic acid [13(S)-HODE], 199
Scanning calorimetry of 15-lipoxygenase, 313
Sephadex-induced lung inflammation in rats, 278, 283-284
Serosal mast cells (SMC), 88
Serpentine 7 spanner transmembrane receptors, 178
Signal transduction, 132
leukotriene D_4-induced, 155-159
Signal transduction pathways for receptors for platelet activation factor and somatostatin, 110-116
Site-directed mutagenesis, 102
SKF 104353, 174, 175, 285
Slow-reacting substance of anaphylaxis (SRS-A), 155, 251
SMC (serosal mast cells), 88
Somatostatin (SST), 107-108
binding of, in CHO cells, 113
distribution of receptors for, 108-110
receptor (SSTR), 108
receptors for, 109-110

signal transduction pathways for receptors for, 110-116
Soybean isoform-1, 104-105
SQ29548 thromboxane A_2 receptor antagonist, 237, 240
SRS-A (slow-reacting substance of anaphylaxis), 155, 251
SST, *see* Somatostatin
SSTR (somatostatin receptor), 108
Staurosporine, 176
Stereoselective metabolism, 265-267
Stress protein induction by prostaglandin A_1, 326-329
Stress proteins, 323-325
Suicide inactivation of leukotriene A_4 hydrolase, 32-34
Sulfido-leukotrienes, regulators of biosynthesis of, 78-83
Synergistic protection, 287
Synthetase inhibitors in asthma treatment, 257

Tachyphylaxis, 253
Terfenadine, 285
Tetrapeptides, 35
TGF (transforming growth factor), 86
THDA (3-thia heptadecanoic acid), 306-309
3-Thia fatty acid analogues, 306-309
3-Thia heptadecanoic acid (THDA), 306-309
Thrombocythemia, essential, 229
eicosanoid biosynthesis and metabolism in, 233-234
Thrombotic complications, 229
Thromboxane A_2 (TXA_2) production, 230
Thromboxane A_2 (TXA_2) receptor, 126-129
Thromboxane A_2 (TXA_2) receptor antagonist SQ29548, 237, 240
Thromboxane biosynthesis and metabolism in man, 229-231
Thromboxanes (TXs), 126
Tissue distribution of PGE receptor, 132-133
TNFα, *see* Tumor necrosis factor-alpha
TPK (tyrosine-specific protein kinases), 3
Transforming growth factor (TGF), 86
3,7,14-Trihydroxy-8,10,16-docosatrienoic acid (3,7,14-triHDoTrE), 41
Trihydroxy acids (lipoxins), 59
Tripeptides, 35-36
Tumor cell cytoskeleton and 12-HETE, 209
Tumor cell-endothelial cell interactions, 209-211
Tumor cell interactions and 12-HETE, 208
Tumor cell motility and 12-HETE, 208
Tumor cells
12-lipoxygenase in, 200-202
in metastasis, 199
metastatic potential of, 202-207
Tumor necrosis factor-alpha (TNFα), 184
muramyl dipeptide-driven production of, 184
production and measure, 185
TXA_2, *see* Thromboxane A_2
TXB_2 metabolism, 230
TXs (thromboxanes), 126
Tyrosine-specific protein kinases (TPK), 3

Vascular permeability, 192-193
measurement of airway, 291
Vasodilatation, histamine-induced, 195

X-ray structure of 15-lipoxygenase, 310-312

Zileuton, 262, 265-266

Index of Contributors

Aakvaag, A., 306-309
Abdi-Dezfuli, F., 306-309
Abraham, N. G., 11-24
Amzel, L. M., 310-313
An, S., 146-154
Arm, J. P., 84-98
Asmis, R., 1-10
Austen, K. F., 84-98
Awni, W. M., 262-273

Badr, K. F., 216-228
Bell, R. L., 262-273
Berge, R. K., 306-309
Bito, H., 107-125
Bouska, J., 262-273
Boyington, J. C., 310-313
Brash, A. R., 25-30
Brodowsky, I. D., 314-316
Brooks, D. W., 262-273
Buckner, C. K., 289-298

Carter, G. W., 262-273
Cashin, C., 274-288
Chang, M. S., 25-30
Ciabattoni, G., 229-236
Colom, A., 310-313

Dehaas, C. J., 289-298
Dennis, E. A., 1-10
DeWitt, D. L., 50-57
Doctor, K. S., 310-313
Dondero, C., 299-305
Dubé, L., 262-273
Duffin, K., 31-38

Elia, G., 323-325

Fiore, S., 166-180
FitzGerald, G. A., 139-145
Fitzpatrick, F. A., 31-38
Ford-Hutchinson, A. W., 78-83
Fukushima, M., 161-165
Fukushima, S., 161-165
Funk, C. D., 25-30

Gaffney, B. J., 310-313
Gingras, D., 184-190
Goetzl, E. J., xiii-xiv, 146-154
Grönroos, E., 155-160

Hamberg, M., 314-316
Hansen, R., 262-273
Hauser, S., 181-183
Hedqvist, P., 191-198
Holtzman, M. J., 58-77
Honda, Z-I., 107-125
Honn, K. V., 199-215
Hussain, H., 58-77

Isakson, P., 181-183
Izumi, T., 107-125

Krell, R. D., 289-298
Kume, K., 107-125
Kusner, E. J., 289-298

Lakkis, F. G., 216-228
Landolfi, R., 229-236
Lanni C., 262-273
Lawson, J. A., 139-145
Leahy, K., 181-183
Lengel, D. J., 289-298
Lepley, R., 31-38
Levy, B. D., 166-180
Lewis, R. A., xiii-xiv
Liminga, M., 317-319
Lin, F., 11-24
Lindbom, L., 191-198

Marsh, K., 262-273
Masferrer, J., 181-183
Mavrophilipos, D. V., 310-313
Mavrophilipos, Z. V., 310-313
Meade, E. A., 50-57
Morelli, J. G., 39-49
Mori, M., 107-125
Morrow, J. D., 237-242
Muller, M., 320-322
Murakami, M., 84-98
Murphy, R. C., 39-49

Narumiya, S., 126-138
Newbold, P., 274-288

O'Byrne, P. M., 251-261
O'Donnel, M., 274-288
Oliw, E. H., 314-316, 317-319
Orning, L., 31-38
Ouellet, S., 184-190

Paoletti, R., xi
Patrignani, P., 229-236
Patrono, C., 229-236
Pickett, W. C., 299-305
Pratico, D., 139-145

Rasmussen, M., 306-309

Raud, J., 191-198
Renzetti, L., 274-288
Roberts II, L. J., 237-242
Rocca, B., 229-236
Rola-Pleszcynski, M., xiii-xiv, 184-190
Rossi, A., 326-329
Roswit, W. T., 58-77

Sakanaka, C., 107-125
Salari, H., 243-250
Santoro, M. G., 323-325, 326-329
Sasaki, H., 161-165
Schellenberg, R. R., 243-250
Schwartzman, M. L., 11-24
Seibert, K., 181-183
Serhan, C. N., 166-180
Shimizu, T., 107-125
Sigal, E., 99-106
Silverstrim, C., 299-305
Simko, B., 274-288
Sjölander, A., 155-160
Sloane, D. L., 99-106
Smith, W. L., 50-57
So, S. W., 146-154
Song, W., 25-30
Sorrell, T. C., 320-322
Stewart, A. O., 262-273
Sztelma, K., 320-322

Tang, D. G., 199-215
Thorlacius, J., 191-198
Thorsen, T., 306-309
Tocker, J., 274-288
Torley, L., 299-305
Travers, J. B., 39-49
Tsang, S., 243-250
Turcotte, S., 184-190

Von Malmborg, A., 317-319

Wasserman, M. A., 274-288
Welton, A. F., 274-288
Wheelan, P., 39-49
Williams, J. C., 289-298
Wilson, J. D., 58-77

Xia, M., 146-154
Xie, X., 191-198

Yang, J., 146-154
Yuan, S. M., 310-313

Zeng, L., 146-154
Zhang, L. Y., 314-316
Zhang, V., 58-77
Zhang, Y., 181-183